

PCT



INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 210121.478PC	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 18061	International filing date (day/month/year) 30/06/2000	(Earliest) Priority Date (day/month/year) 30/06/1999
Applicant CORIXA CORPORATION et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☒ furnished subsequently to this Authority in computer readable form.

☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

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International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 21, 22, 29-31, 34, 35 (insofar as an in vivo method is envisaged) and 37-39 are directed to a method of treatment of the human body, the search has been carried out and based on the alleged effects of the compositions.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-60 (all partly)
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1,2 and 4-60 (all partly and as far as applicable)

Invention 1:

Polypeptide encoded by a polynucleotide sequence recited in SEQ ID NO:1 or polypeptide encoded by sequences that hybridize to a sequence recited in SEQ ID NO:1. Fusion protein comprising said polypeptide. Polynucleotide encoding said fusion protein. Pharmaceutical composition or vaccine comprising said polypeptide, and method for inhibiting the development of a (lung) cancer in a patient, isolated polynucleotide; method for removing tumour cells from a biological sample; method for stimulating and/or expanding T cells specific for a lung tumour protein; isolated T cell population; method for determining or monitoring a cancer in a patient; diagnostic kit; oligonucleotide.

2. Claims: 1-60 (all partly and as far as applicable)

Inventions 2-652:

As invention 1, the subject-matter of said inventions is limited to SEQ ID NOs:

11-13,15,20,23-27,29,30,33,34,39,41,43-46,51,52,57,58,60,62,65-67,69-71,74,76,79,80,84,86,89-92,95,97,98,101,110,111,113-119,121-128,130-134,136,138,139,141,143,146-151,153,154,157-160,162-164,167-178,180,181,183,186-190,192,193,195-220,224,226-231,234,236,237,240,241,244-246,248,254,255,261,262,266,270,275,280,282,283,288,289,290,292,295,301,303,304,309,311,341-782,784-787,790-800,802,804,806-809 and 811-827.

wherein

invention 2 is limited to SEQ ID NO 11
invention 3 is limited to SEQ ID NO 12, etc...
invention 652 is limited to SEQ ID NO 827

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International Application No

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C07K14/705 C07K16/18 C12N15/62
A61K38/17 C12Q1/68 G01N33/577 C07K17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K A61K C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 33993 A (SAGAMI CHEMICAL RESEARCH CENTER ;KATO S ET AL.) 18 September 1997 (1997-09-18) whole document especially SEQ ID NO:2 ---	1,2,4-60
X	WO 98 31799 A (HUMAN GENOME SCIENCES INC ; NI J ET AL.) 23 July 1998 (1998-07-23) whole document especially pages 16, 42 and 43 --- -/--	1,2,4-60



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

2 February 2001

Date of mailing of the international search report

16.02.01

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/18061

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WU Y ET AL: "Activation of globin gene expression by cDNAs from induced K562 cells"</p> <p>JOURNAL OF BIOLOGICAL CHEMISTRY,US,AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, vol. 266, no. 26, 15 September 1991 (1991-09-15), pages 17566-17572, XP002037858</p> <p>ISSN: 0021-9258</p> <p>figure 8</p> <p style="text-align: center;">---</p>	1,2,4-17
X	<p>DATABASE EMBL/GENESEQ [Online]</p> <p>EBI;</p> <p>XP002153175</p> <p>AC NO X21973 18 May 1999;Human HP00966 coding sequence, having 100% sequence identity in a 400 bp overlap with SEQ ID NO:1</p> <p style="text-align: center;">---</p>	1,2,4-17
A	<p>GÜRE ET AL: "Human lung cancer antigens recognized by autologous antibodies: definition of a novel cDNA derived from the tumor suppressor gene locus on chromosome 3p21.3"</p> <p>CANCER RESEARCH,AMERICAN ASSOCIATION FOR CANCER RESEARCH, BALTIMORE, MD,US, vol. 58, 1 March 1998 (1998-03-01), pages 1034-1041, XP002103188</p> <p>ISSN: 0008-5472</p> <p>page 1038</p> <p style="text-align: center;">---</p>	1-60
A	<p>CHEN S-L ET AL: "Isolation and characterizaton of a novel gene expressed in multiple cancers"</p> <p>ONCOGENE,GB,BASINGSTOKE, HANTS, vol. 12, no. 4, 15 February 1996 (1996-02-15), pages 741-751, XP002106655</p> <p>ISSN: 0950-9232</p> <p>the whole document</p> <p style="text-align: center;">---</p>	1-60
A	<p>US 5 589 579 A (BOLLON ARTHUR P ET AL) 31 December 1996 (1996-12-31)</p> <p>the whole document</p> <p style="text-align: center;">---</p>	1-60
X	<p>DATABASE EMBL/GENESEQ [Online]</p> <p>EBI;</p> <p>XP002159111</p> <p>AC NO AA948244 5 May 1998; Human cDNA clone IMAGE:1588176 3', nt 1-379 are 100% identical to nt 770-392 in SEQ ID NO:808</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	5-8,58,59

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p> DATABASE EMBL/GENESEQ [Online] EBI; XP002159112 AC NO AA620697 16 October 1997; Human cDNA clone IMAGE:1049185 3', nt 1-378 are 100% identical to nt 769-392 in SEQ ID NO:808 ----- </p>	<p>5-8, 58, 59</p>

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Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9733993 A	18-09-1997	AU 1940697 A CA 2248355 A EP 0897424 A	01-10-1997 18-09-1997 24-02-1999
WO 9831799 A	23-07-1998	AU 5923398 A AU 6030398 A EP 0972022 A EP 1007663 A WO 9831800 A AU 5927398 A AU 6241698 A EP 0972023 A EP 0972025 A EP 0988385 A US 6046031 A WO 9831818 A WO 9831801 A WO 9831806 A	07-08-1998 07-08-1998 19-01-2000 14-06-2000 23-07-1998 07-08-1998 07-08-1998 19-01-2000 19-01-2000 29-03-2000 04-04-2000 23-07-1998 23-07-1998 23-07-1998
US 5589579 A	31-12-1996	AU 700915 B AU 3359295 A BR 9508417 A CA 2195403 A EP 0804451 A JP 10503087 T WO 9602552 A US 5773579 A	14-01-1999 16-02-1996 18-11-1997 01-02-1996 05-11-1997 24-03-1998 01-02-1996 30-06-1998